

Patent

IN THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) In an implantable cardiac device, a method for determining a maximum observed heart rate of a patient during exercise, comprising:

- (a) monitoring a changing heart rate of the patient and producing heart rate measurements;
- (b) monitoring activity level of the patient; and
- (c) identifying a heart rate as the maximum observed heart rate using the implantable cardiac device and storing the identified maximum observed heart rate in the implantable cardiac device, when the following conditions occur: (i) the activity level exceeds an activity threshold, (ii) a heart rate measurement is greater than a stored heart rate measurement, and (iii) a difference between the heart rate measurement and the stored heart rate measurement does not exceed a predetermined threshold.

2. (Currently Amended) ~~The method of claim 1, wherein step (c) comprises identifying the maximum observed heart rate when the activity level exceeds the activity threshold~~ In an implantable cardiac device, a method for determining a maximum observed heart rate of a patient during exercise, comprising:

- (a) monitoring a changing heart rate of the patient and producing heart rate measurements;
- (b) monitoring activity level of the patient; and
- (c) identifying a heart rate as the maximum observed heart rate when the following conditions occur: (i) the activity level exceeds an activity threshold for a predetermined period of time, (ii) a heart rate measurement is greater than a stored heart rate measurement, and (iii) a difference between the heart rate measurement and the stored heart rate measurement does not exceed a predetermined threshold.

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3. (Original) The method of claim 2, wherein step (c) comprises identifying the maximum observed heart rate when the activity level exceeds the activity threshold for at least two minutes.

4. (Currently Amended) ~~The method of claim 2, further comprising the step of~~ In an implantable cardiac device, a method for determining a maximum observed heart rate of a patient during exercise, comprising:

(a) monitoring a changing heart rate of the patient and producing heart rate measurements;

(b) monitoring activity level of the patient;

(c) identifying a heart rate as the maximum observed heart rate when the following conditions occur: (i) the activity level exceeds an activity threshold, (ii) a heart rate measurement is greater than a stored heart rate measurement, and (iii) a difference between the heart rate measurement and the stored heart rate measurement does not exceed a predetermined threshold; and

storing said maximum observed heart rate identified in step (c) as a new stored heart rate measurement.

5. (Cancelled)

6. (Original) The method of claim 1, further comprising determining one or more of the following: heart rate intensity, percent oxygen consumption (%VO₂) reserve, metabolic equivalents (METS), percentage METS, and workload.

7 – 12. (Cancelled)

13. (Currently Amended) An implantable cardiac device for determining a maximum observed heart rate of a patient during exercise, comprising:

means for monitoring a changing heart rate of the patient and producing heart rate measurements;

means for monitoring activity level of the patient; and

implanted means for identifying a heart rate as the maximum observed heart rate and for storing the identified maximum observed heart rate, when the following conditions occur: (i) the activity level exceeds an activity threshold, (ii) a heart rate

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measurement is greater than a stored heart rate measurement, and (iii) a difference between the heart rate measurement and the stored heart rate measurement does not exceed a predetermined threshold.

14. (New) An implantable cardiac device for determining a maximum observed heart rate of a patient during exercise, comprising:

means for monitoring a changing heart rate of the patient and producing heart rate measurements;

means for monitoring activity level of the patient; and

means for identifying a heart rate as the maximum observed heart rate when the following conditions occur: (i) the activity level exceeds an activity threshold for a predetermined period of time, (ii) a heart rate measurement is greater than a stored heart rate measurement, and (iii) a difference between the heart rate measurement and the stored heart rate measurement does not exceed a predetermined threshold.

15. (New) An implantable cardiac device for determining a maximum observed heart rate of a patient during exercise, comprising:

means for monitoring a changing heart rate of the patient and producing heart rate measurements;

means for monitoring activity level of the patient;

means for identifying a heart rate as the maximum observed heart rate when the following conditions occur: (i) the activity level exceeds an activity threshold for a predetermined period of time, (ii) a heart rate measurement is greater than a stored heart rate measurement, and (iii) a difference between the heart rate measurement and the stored heart rate measurement does not exceed a predetermined threshold; and

means for storing an identified maximum observed heart rate as a new stored heart rate measurement.

16. (New) A method of determining a maximum observed heart rate of a patient during exercise using an implantable cardiac device, said method comprising:

(a) producing a current heart rate measurement for the patient;

(b) producing a current activity level measurement for the patient;

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(c) determining if (i) the current activity level exceeds an activity threshold, (ii) the current heart rate measurement is greater than a stored heart rate measurement, and (iii) a difference between the current heart rate measurement and the stored heart rate measurement does not exceed a predetermined threshold; and

(d) if conditions (i), (ii) and (iii) are satisfied, storing the current heart rate measurement as the maximum observed heart rate measurement,

17. (New) The method of claim 16 wherein (d) further comprises storing the current heart rate measurement as a new stored heart rate measurement and repeating (a), (b) and (c).

18. (New) The method of claim 16 further comprising storing the stored heart rate measurement as the maximum observed heart rate if conditions (i), (ii) and (iii) are not satisfied.